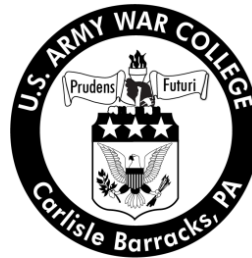


Civilian Research Project USAWC Fellow

The Challenge of Modern Contingency Base Management During Sustained Land Operations

by

Colonel Robert Gingras
Army National Guard



United States Army War College
Class of 2013

DISTRIBUTION STATEMENT: A

Approved for Public Release
Distribution is Unlimited

This manuscript is submitted in partial fulfillment of the requirements of the U.S. Army War College Fellowship. The views expressed in this student academic research paper are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.

The U.S. Army War College is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools, 3624 Market Street, Philadelphia, PA 19104, (215) 662-5606. The Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
<p>The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.</p>					
1. REPORT DATE (DD-MM-YYYY) xx-04-2013		2. REPORT TYPE CIVILIAN RESEARCH PROJECT		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE The Challenge of Modern Contingency Base Management During Sustained Land Operations				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Colonel Robert Gingras Army National Guard				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) The Honorable Ms.Katherine Hammack ASA I, E & E				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Mr. Brent Bankus U.S. Army War College, 122 Forbes Avenue, Carlisle, PA 17013				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT Distribution A: Approved for Public Release. Distribution is Unlimited.					
13. SUPPLEMENTARY NOTES Word Count: 4937					
14. ABSTRACT Modern contingency base management is a complicated task worthy of trained professionals. Base "Mayors" have to plan for Military Construction (MILCON) Projects, utilities, and facility maintenance and oversee and coordinate with the U. S. Army Corps of Engineers (USACE), contracting officers, contractors, Logistical Civil Augmentation Program (LOGCAP) contractors and LOGCAP Liaison Officers (LSO's). Mayor's cells are also expected to prepare scope of work documents to solicit proposals from contractors. Installations Command (IMCOM) has accepted the mission to provide Base Management for Bagram Airfield and Camp Leatherneck in Afghanistan with a team of IMCOM civilians having arrived in 2012. This paper examines the problems of base management and construction and makes recommendations for improvements of base management and construction during contingency operations.					
15. SUBJECT TERMS Military Construction, Master Planning, Vocational Education, Trades					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT UU	18. NUMBER OF PAGES 30	19a. NAME OF RESPONSIBLE PERSON
a. REPORT UU	b. ABSTRACT UU	c. THIS PAGE UU			19b. TELEPHONE NUMBER (Include area code)

USAWC CIVILIAN RESEARCH PROJECT

The Challenge of Modern Contingency Base Management During Sustained Land Operations

by

Colonel Robert Gingras
Army National Guard

The Honorable Ms.Katherine Hammack
ASA I, E & E
Project Adviser

Mr. Brent Bankus
U.S. Army War College Faculty Mentor

This manuscript is submitted in partial fulfillment of the requirements of the U.S. Army War College Fellowship. The U.S. Army War College is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools, 3624 Market Street, Philadelphia, PA 19104, (215) 662-5606. The Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

The views expressed in this student academic research paper are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.

U.S. Army War College
CARLISLE BARRACKS, PENNSYLVANIA 17013

Abstract

Title: The Challenge of Modern Contingency Base Management During Sustained Land Operations

Report Date: April 2013

Page Count: 30

Word Count: 4937

Key Terms: Military Construction, Master Planning, Vocational Education, Trades

Classification: Unclassified

Modern contingency base management is a complicated task worthy of trained professionals. Base “Mayors” have to plan for Military Construction (MILCON) Projects, utilities, and facility maintenance and oversee and coordinate with the U. S. Army Corps of Engineers (USACE), contracting officers, contractors, Logistical Civil Augmentation Program (LOGCAP) contractors and LOGCAP Liaison Officers (LSO’s). Mayor’s cells are also expected to prepare scope of work documents to solicit proposals from contractors. Installations Command (IMCOM) has accepted the mission to provide Base Management for Bagram Airfield and Camp Leatherneck in Afghanistan with a team of IMCOM civilians having arrived in 2012. This paper examines the problems of base management and construction and makes recommendations for improvements of base management and construction during contingency operations.

The Challenge of Modern Contingency Base Management During Sustained Land Operations

Sustained land combat and stability operations have involved the projection of power from secure communications and logistical centers called bases or base camps.¹ In the past two decades, the battle space owning unit, assisted by the Army's Logistics Civilian Augmentation Program (LOGCAP) has provided the management for these bases. The U.S. Army Corps of Engineers (USACE), Contracting Command and various local and transnational contractors (in addition to LOGCAP) also assist in providing municipal services.² The citizens of the United States have placed increased expectations on the Department of Defense in managing contingency bases. The public and soldiers alike have come to expect that troops in theater should have access to air conditioning, data connections, recreation facilities and the availability of exchange stores, all of which increases electrical demand.³ Depending on the size of the base, bases in country start to resemble cities with power and water distribution systems, sewage treatment facilities, solid waste facilities, public transportation, hazardous waste storage areas and fire departments.⁴

The commander of the battle space (with his staff) makes the decisions of what is going to be built, where it will be built, and how to manage other professionals supporting the soldier.⁵ The unit also provides the contracting oversight of all the contracted services described above by providing the Contracting Officer (from Contracting Command) a Contracting Officer's Representative (COR) for each of the contracted functions. The Commander accomplishes this with little training in municipal planning for both himself and his staff.⁶ When the battle space owning unit identifies a

new requirement for the base, the unit is the first to document the need for a new service and to initiate the programming requests for funding to satisfy that need.⁷ In Afghanistan, for example, the programming requests are processed through a Joint Acquisition Review Board (JARB) or a Joint Facilities Utilization Board (JFUB).⁸

The commander and staff of a Brigade Combat Team (BCT) are poorly equipped to manage bases of significant size as there is little relevant training to prepare personnel for managing such a potentially complex municipal operation.⁹ In an effort to provide a trained management team for bases, Installation Management Command (IMCOM) has deployed knowledgeable staff to Bagram Air Field and Camp Leatherneck in Afghanistan to provide base management services for the battle space owning commanders.¹⁰

In sustained land based combat or humanitarian/stability missions, the Army is the unique institution that has the logistical capability to succeed. As the Army transitions to the “Prevent, Shape, Win” strategy, it will require a number of contingency bases as part of this strategy. Below is an examination of some of the problems with managing base camps and suggested improvements.

HISTORICAL CONTEXT:

Over the last fifty (50) years, the U.S. has had several common operating problems in the management and construction of contingency bases. What follows is a discussion of several of these problems.

Base management knowledge, background and training: Since the operations in the Balkans, military units, when forming a base, have formed

management teams referred to as “mayor cells.”¹¹ Commanders select military personnel whose background and training is not necessarily in base management to form the mayor cell. The mayor cell is supported by LOGCAP, which has extensive capabilities; however, the mayor cell is the command’s representation for establishing LOGCAP priorities and evaluating LOGCAP performance for the Contracting Officer.¹²

The mayor cell also prepares scoping documents and funding requests for work which is not in the scope of the LOGCAP contractor. This is one method for the command to obtain newly constructed facilities utilizing annually funded appropriations or to obtain a new service. Congress requires that annually funded construction projects must be below the Military Construction (MILCON) threshold (currently \$750,000) or if the Department of Defense (DOD) fails to stay below the threshold Congress requires that they be notified.¹³ Typically, the command does not have many trained architects or engineers available, so utilizing LOGCAP to construct new facilities is an attractive alternative because the LOGCAP contractor will provide design as well as construction services. Also, the DOD has required that Contracting Command prefer Host Nation (HN) contractors when awarding contracts.¹⁴ A recent example of this is the Afghan First Initiative.¹⁵ A typical mayor cell of a BCT does not have personnel who are knowledgeable in construction inspection or in the preparation of contract documents to solicit work from HN contractors. Government reports have identified the lack of adequate contract controls to solicit bids from and supervise contractors.¹⁶

In soliciting for contracted products and services in a war torn or third world country, the U.S. expectations of what is achievable are not in line with the reality of

what the U.S. receives for its investments. In the U.S. a wide variety of professional services are available to meet the needs of an entity seeking constructed product that are not available in a troubled third world country. State registered architects and engineers provide designs and contract document preparation; bonding sureties provide owner assurance as to the ability of a contractor to meet the requirements of a contract; registered trades-people are available to ensure that the constructed product meets current code requirements; and various testing companies and inspection services ensure that the components of the constructed products meet contract requirements. The Government Accounting Office (GAO) report 12-290 identifies an example of a common situation where a Contracting Officer's Representative (COR) had accepted "cement" blocks for construction of a wall as part of a new facility. The "cement" blocks were inadequate, lacking the strength required. In the U.S. a testing agency would have tested the blocks through appropriate compression tests to verify the strength of the blocks, a service was not easily available to the COR in Afghanistan. Also, the COR did not have a background in masonry construction.¹⁷

The problems discussed above are further exacerbated when the DOD decides to limit the tours for soldiers to one year, a decision the DOD has in the past found to be necessary for morale. At the point in time that one becomes trained on the funding, project requirements, contract requirements, and other base management needs, the incumbent soldier is redeployed. Often, during the relief-in-place of soldiers performing duties (often referred to as the left seat-right seat ride), the incumbent fails to relay critical information to the incoming soldier(s), resulting in a failure to extend a critical contract or the misallocation of real estate or other management failures.

Without of a robust team of trained professionals in the execution of base management, the units have had a difficult time fulfilling their mission.¹⁸ With untrained personnel attempting to develop project scopes, supervise construction or facilities maintenance, the facilities at the base at times have not been adequate and can be sometimes dangerous.¹⁹ Dealing with contract problems has taken the time of commanders and staff normally devoted to operations, requiring command involvement in reprogramming projects to fix deficiencies, or reallocating space and resources for priority missions because the improvements scheduled to support those missions are not completed or are not adequate.²⁰

Units have had difficulties in obtaining funding for base requirements. The process of the JARB and JFUB are intensive, involving a board with field grade officer representation, Judge Advocate General (JAG) officers, resource managers, engineers, and others all of whom's time is consumed by inadequately prepared scopes and project justifications.²¹ The boards exist to approve the expenditure of Operations and Maintenance Army (OMA) funds and to prevent fiscal law violations such as the purpose of funds, funding limitations or the amount of funds as a check on teams of personnel who are not used to handling government money. The boards are not typically required at bases in the Continental United States (CONUS) as the program managers have more experience.²² For Operation Enduring Freedom (OEF) the board process is required for any expenditure, no matter how small, such as erecting a tent or emplacing a section of fencing (values below \$1,000).²³

In the past, commanders have needed a more knowledgeable staff of professionals executing a multiyear plan and capable of instituting sufficient controls to

adequately monitor contractors. Commanders have lacked a trained, capable base management team and as a result, the mission has suffered. The mission suffers because commanders and staffs have to re-program fixes to improvements which are not completed or are inadequate, or they have to reallocate real estate to priority missions. Uniformed members have to participate in boards to approve funding for even the least expensive expenditure in order to prevent fiscal law purpose violations. One looks around the room where a JARB or JFUB is taking place and thinks how many more “trigger pullers” could be out in the area of operations instead of reviewing simple, low cost requirements.

Environmental Management: In recent years, commanders have lacked an adequately trained environmental staff while conducting operations, resulting in unacceptable exposure to environmental hazards for soldiers at contingency bases.²⁴ Units have moved into and occupied sites without a proper site assessment of the background hazards on the site, exposing soldiers (and prisoners) to potentially harmful toxins.²⁵ Also, the U.S. has had to store its hazardous waste at bases because the HN does not have facilities to dispose of the waste and moving the waste across international borders can trigger compliance to the Basel Convention of 1989.²⁶ Having to store waste, units have improperly handled hazardous waste which has caused fires and other unacceptable incidents of exposure.²⁷ Soldiers have also been exposed to numerous other examples of health problems such as improperly handled black water, burn pits and noise.²⁸

Inadequate Supply of Trade Labor (Electricians, Plumbers, Carpenters, etc.): The HN, often after years of conflict, does not have an adequate supply of

tradesmen to meet the construction ambitions of the U.S.²⁹ The various coalitions involved in Afghanistan, for example, have created such a demand for skilled labor that upon receiving minimal vocational skills, Afghans are placed in jobs immediately with increased pay.³⁰ Contractors working for U.S. forces, in need of adequate trade labor, import skilled labor to accomplish the construction. The local people are of the opinion (incorrectly) that they can provide that labor and resent imported workers,³¹ creating a potential weakness in the information campaign that the enemy is likely to exploit. During the Vietnam War, engineer units had success in training the Vietnamese as carpenters, and equipment operators, thus mitigating the problem of an inadequate supply of skilled trade labor.³² The labor force in Vietnam was almost entirely unskilled or semi-skilled at the start of the conflict but due to concerted efforts of the engineer units in country, by 1970, Vietnamese labor operated complete rock quarries, dump truck platoons, and bridge prefabrication yards.³³ Also, during Vietnam, a concerted effort was made to ensure that the Vietnamese possessed the skills to operate the facilities upon the departure of the U.S. forces.³⁴ The Special Inspector General for Afghan Reconstruction (SIGAR) has specifically pointed out that Afghan forces have not been trained to meet this need and the report questions if the original construction dollars spent on Afghan reconstruction will now be wasted since the country lacks the skills to maintain these facilities once the U.S. forces depart.³⁵

Limited Capacity: Often, the HN has limited capacity to absorb so much constructed product. This was certainly the case in war torn Vietnam³⁶ and now in Afghanistan. The U.S. may consider airlifting capacity into the country in order to achieve its desired construction ambitions but as is reflected in reports from the SIGAR,

this has not yielded the desired results in Afghanistan.³⁷ Contractors have an easier time of performing construction on bases, with their obvious security advantages, as opposed to other locations, due to the fact that bases, by definition, are at secure logistical distribution points. With these advantages, contractors find Title 10 (T10) base construction easier to accomplish and profit from, which may make T10 construction appear to be a priority. The appearance of a beautifully well lit newly constructed base in an area devastated by war with a significant difference in utility services creates an appearance³⁸ which will be hard to reconcile with a public relations campaign in which the command is attempting to message that we are trying to help. Additionally, the HN construction standards have often been significantly lower than the standards Americans enjoy in the United States. Also, the HN may not have long established contract law, unlike the U.S. which often leads to corruption.

The Lack of Base Master Planning: American forces will often utilize a base for longer than initially planned.³⁹ The U.S. rotates commanders every six to twelve months creating a situation where every time the commander changes the plan changes.⁴⁰ The DOD requests funding for construction in a multiyear process⁴¹ so if commanders change a master plan annually, the result is often inaction. With unskilled staff improperly laying out bases, commanders have to program repairs that are costly. An example of this is Bagram Airfield (BAF), Afghanistan, where the U.S. positioned a solid waste burn pit at the north end of the runway. Prevailing winds at BAF blow out of the north, which is also the desired direction for aircraft takeoff. The solid waste attracts birds, resulting in Bird Airstrike Hazard (BASH)⁴² requiring multimillion dollar repairs. In the early years of the war, BAF required a great deal of de-mining,⁴³ so the decision to

position the solid waste facility at the north end of the runway may have been the best in a series of poor choices. Had the base management team possessed a basic knowledge of master planning, they more likely would have placed a higher priority on this problem, preventing some of these unnecessary costs and hereby enhancing mission effectiveness.⁴⁴

RECOMMENDATIONS

In sustained land combat and stability operations, the Army should execute further changes to improve the management of bases. Six recommended changes are:

1. The Army should provide IMCOM management to more Contingency

Bases: There are great similarities between large contingency base camp management and installation management at established locations such as the Continental United States (CONUS). The appropriations, funding limitations, environmental constraints and the stake holders (Commanders, USACE, Acquisition Professionals and Contractors) are very similar.⁴⁵ IMCOM manages all Army Installations and the knowledge and skills that they employ are extremely useful in contingency environments.⁴⁶ The type of base that merits IMCOM management should be decided on the basis of its size, anticipated life span and mission. Upon receiving an enduring status and upon receiving Military Construction (MILCON) funding for a Title 10 (T10) purpose (long term basing for U.S. Troops) the base commander should receive IMCOM management. IMCOM management will provide commanders with knowledgeable, experienced professionals who can minimize commanders direct day to day involvement on base management and maximize the number of “trigger pullers” available.

2. Improve Funding Procedures: By following the recommendation above, contingency bases will be managed by experienced IMCOM personnel, very familiar with obligating U.S. military funding. These experienced personnel should not be subject to the same level of review in order to obtain funding for minor requirements. The procedure at bases in the CONUS allows program managers to utilize a purchasing card or a purchase order system with funding limitations (usually under \$3500.00). They do not have to submit to reviews for fiscal law (purpose, time and amount) in order to obligate these funds because they are experts in obligating the government in this manner. IMCOM personnel also understand the subtleties of real property improvements and personal property, thereby not spending Operations and Maintenance, Army (OMA) funds above the MILCON threshold or spending OMA funds in order to augment a MILCON facility (thereby mixing MILCON and OMA appropriations). IMCOM personnel can provide the expertise in how to classify work as construction, sustainment or modernization or whether the work is to enhance a real property asset or a personal property asset.⁴⁷ Also, IMCOM personnel would not require JARB or JFUB review board approval for small dollar improvements.

3. Vocational Training: For post major conflict or peace keeping operations the U. S should establish a formalized approach to educate HN labor on becoming master tradesmen, similar to the apprentice-to-master programs in the States. The process takes four to five years so if the U.S. implements such a program it would not have an immediate effect for military bases; however, such a program, started early in the operation, will eventually yield positive results not only on contingency base camps but also in maintaining an employed, knowledgeable and busy HN population. Such a

program would require multi-agency coordination, allowing tradesmen to obtain productive work credit under a master's supervision on multiple projects. The DOD can require the LOGCAP and MILCON contractors to furnish this supervision in the normal process of completing contract work. Some vocational education programs were attempted during the Vietnam War, proceeding informally at first with "on the job" training and then advancing to a more formal program by 1970.⁴⁸ As stated above, another benefit of training the local labor force is that upon the departure of U.S. Forces, the HN will have sufficient labor to maintain the facilities as was accomplished in Vietnam⁴⁹ and, to date, appears to be lacking in Afghanistan.⁵⁰

In Afghanistan, the Korean Government has created vocational educational opportunities for Afghans by creating a Korean Vocational Technical School at Bagram Airfield. This school has delivered impressive results and has a 98% job placement rate for all graduates.⁵¹ The initial training of tradesmen is usually vocational or apprenticeship training. From these beginnings, HN graduates could go on to become journeyman and eventually masters if a formal training program existed within the LOGCAP services or other U.S. contracted services. The U.S. could make the training of tradesmen within the HN a contract requirement for firms competing for U.S. contracts in theater. Creating a formalized system within the HN would reap rewards in building capacity and reconstruction efforts as well as creating the capabilities to maintain newly constructed facilities, addressing a current shortcoming identified by the SIGAR for Afghanistan.

4. Combatant Commands (COCOM's) should avoid T10 MILCON:

COCOM's should avoid requesting MILCON for a T10 purpose (construction to support

U.S. troop presence) during contingency operations. The COCOM's should avoid requesting MILCON for barracks, dining facilities, laundry, water and waste water treatment, solid waste and Morale, Welfare and Recreation (MWR) facilities. By requesting MILCON for T10 purposes, the COCOM's require the State Department or the U.S. Agency for International Development (USAID) to compete with T10 construction projects for what little capacity exists in the country for construction. COCOM's should consider the use of package systems, which are built in secure areas and shipped to theater. Within the Army, these package systems are called Contingency Base Infrastructure (CBI). Study groups have modeled various CBI systems to determine the "best in breed" equipment, all of which are currently available in the Army's supply system. The study groups have shown that the "best in breed" systems can cut base camp logistical energy requirements in half and lower the overall costs of some brigade sized base camps by hundreds of millions of dollars.⁵² The CBI study groups believe they will accomplish this by adding insulation and other energy reductions, providing power by utilizing micro-grid power generation systems as well as lowering water use. The CBI initiative is one program, in a financially restrained environment, which actually reduces costs.⁵³

US Army Africa Command (USARAF) has identified that an important objective in conducting operations within Africa Command (AFRICOM) is to minimize the physical footprint and the time of occupation of US Army contingency bases.⁵⁴ The Command has accurately recognized that placing a base on a continent with minimal resources and scarce water resources, while logistically supporting that base as if it were in the CONUS, would damage the mission and the information campaign of any USARAF

missions. USARAF emphasizes throughout their literature that a minimalist approach is the right approach.⁵⁵

When the U.S. decides that a site is to be enduring, the site would then merit MILCON and IMCOM management, as well as USACE support for the plans, specifications, estimates and construction of MILCON funds. Even when a Major Command (MACOM) decides that a base is to be enduring, commands should compare the importance of T10 MILCON with other reconstruction efforts and how each affects the mission. Commands should understand that in a country with a limited capacity to absorb constructed product, building T10 MILCON projects will take away from other reconstruction efforts and a better decision may be to delay the T10 MILCON projects for now when considering the mission, thus allowing the Government and the U. S, to apply limited in-country capacity to schools, utility infrastructure, and health care facilities.

5. Master Planning Training: In the Army's Officer Education Programs there is little in the way of real property master planning training. Generals and Colonels, commanding an area of operations, find themselves having to make decisions on gray and black water sewage treatment, electrical distribution, water distribution and treatment, real property improvement, land use, as well as transportation planning.⁵⁶ Over the last fifty years, the Army has changed the way installations are managed by minimizing the involvement of uniformed personnel and increasing the involvement of DOD civilians and contractors.⁵⁷ This has resulted in a large majority of officers who are not familiar with the problems of contingency base management. The education problem has other impacts in the theater of operations as leaders wrestle with the

delivery of municipal type services to the populous in the area of operations as was evident in Sadr City, Baghdad, Iraq.⁵⁸ If the HN government fails to deliver adequate municipal services and fails to become believable in the potential to deliver future improvements in those services, insurgencies can take hold.⁵⁹ As this paper argues previously, the sharp contrast with T10 base construction and living standards when compared to the standards of municipal services for the HN population is a source of information, detrimental to U.S. war aims and, can be utilized by the insurgents in their Information Operations campaign against U.S. interests.

Senior leaders, familiar with master planning, are also familiar with delivering municipal services and therefore are better able to ensure that base development is well thought out and forward looking. They can also ensure that the base is able to meet future needs such as a surge in combat forces. Leaders will also possess skills which will assist in meeting the needs of the HN populous in gaining municipal services.

6: Contingency Basing as part of Prevent, Shape, Win: As the Army continues into the 21st Century, the current Chief of Staff of the Army foresees an engaged Service, one that prevents future conflicts by convincing potential adversaries that war with the United States would be unwise. He sees the Army shaping the international environment by engaging with our partners, conducting military-to-military contacts and helping our partners build capacity among themselves. Finally, the Army must possess the ability to decisively win our major conflicts.⁶⁰ It is in the shaping function that the Army should use improved contingency base management to reduce cost and minimize the negative impacts of basing. The Army's CBI initiatives are ready made to assist in the "Prevent, Shape, Win" strategy for the employment of Army forces.

As shown previously, the minimalist approach of CBI facilities will minimize water use on a continent with scarce water resources. If USARAF utilizes the “best of breed” systems identified by the CBI they will take advantage of the ability to set up and take down bases quickly (such as with Force Provider camps) as well as benefit from the energy efficient designs of some of the semi permanent systems, such as Re-locatable Rigid Wall Shelters (RRWS). Utilizing these energy efficient designs, in conjunction with micro-grid power generation, will allow the Army to minimize the logistical requirements for any planned Military to Military training engagements.⁶¹

CONCLUSION

The problems that arise from a consolidated population of troops during land based contingency operations are similar to the problems experienced at an installation of troops at an established location. The Army, as the premier sustained land combat force in the world, should seek to be the lead department, simplify contingency bases and to manage these bases with knowledgeable and experienced personnel. As the U.S. pivots to the Asia/Pacific region, it is difficult to imagine a scenario where the U.S. would not need to consolidate forces at a secure land based logistical center (a base) from which U.S. forces would execute missions. The U.S. will also require contingency bases as part of the Prevent, Shape, Win strategy to regionally align Army units with specific geographic areas and countries. As USARAF has identified, the Army will need to minimize its footprint in some of these countries and the CBI initiative will assist in that endeavor.

FUTURE RESEARCH

In the area of contingency basing, the Army should direct future research to develop scalable package systems which are applicable in Afghanistan, Haiti or in Super-Storm Sandy. The DOD should recognize where the needs of the homeland and the needs of war intersect in contingency basing and seek to co-develop solutions to rapidly house soldiers, first responders or people seeking housing following a natural disaster. Rapidly deployable Waste to Energy (WTE) systems for solid waste disposal would provide much needed energy sources and help remove the solid waste. The Army is developing and should fund black water processing package plants that can treat sewage and discharge the treated water at a contingency base, rather than rely on contractors to dispose of the black water “properly” (with little to no oversight of the black water removal contractor). The CBI initiative, which has analyzed the best in breed of existing systems available through the procurement system, should be replicated by the COCOM's at each of the locations in which they anticipate the need for contingency basing.

Lastly, future research should seek to conduct a review of all Title 10 MILCON completed over the last twelve (12) years in Iraq and Afghanistan. The evaluation should consider the current condition of the project, does the project fulfill its intended mission and was the delivery of the project an overall hindrance to the mission (requiring command and staff direct involvement) or was the mission enhanced by the project. Some MILCON projects are required and are necessary (such as airfield runways or port facilities); however, T10 MILCON projects may use up a very limited HN capacity that may be better applied to other projects such as schools or health facilities.

Endnotes

¹ U.S. Department of the Army, Army Engineer School, *Base Camps (Final Draft)*, ATP 3-37.10, (Fort Leonard Wood, MO: U. S. Department of the Army, Army Engineer School, Scheduled for release February 2013) 1-1.

² Ibid: 22.

³ U. S. Department of the Army, *Base Development in South Vietnam 1965-1970*, LG Carroll H. Dunn, (Washington, D.C.: 1991): 33; Lutz, Catherine, ed., *The Bases of Empire: The Global Struggle against U. S. Military Posts*(New York, NY: New York University Press, 2003) 133.

⁴ Anderson, H. Garth and Kinnevan, Kirk, "*Contingency Base Camp Operations and Management: Staffing and Organization*," White Paper written by a USACE CERL Engineer (April, 2011): 6.

⁵ Ibid: 17, 18.

⁶ Page, Kenneth, Master Planner, Bagram Airfield, February 2010 to November 2012, telephone interview conducted by the author, 17 December, 2012.

⁷ Ibid.

⁸ Appleman, Patrick, Director of Public Works, Bagram Airfield, 2012, telephone interview conducted by the author, 30 November, 2012; *Commander's Guide to Money as a Weapons System, Tactics, Techniques and Procedures*, Center for Army Lessons Learned (April, 2009): 37, 46

⁹ Anderson, H. Garth: ii, I, 22.

¹⁰ Jones, Reuben D. MG, "Expeditionary Installation Management: IMCOM is up to the challenge," *The U.S. Army Journal of Installation Management* (Fall, 2011) 14; Appleman, Patrick, Director of Public Works, Bagram Airfield, telephone interview conducted by the author, 30 November, 2012.

¹¹ Anderson, H. Garth: 4, 5.

¹² Ibid: 13.

¹³ U.S. Department of the Army, U.S. Army War College, *How the Army Runs*, Lord, Harold W. ed. (2011-2012) 267.

¹⁴ U. S. Department of Defense, Defense Federal Acquisition Regulation, DFARS Supplement, Part 225, *Foreign Acquisition* (Revised December 29, 2010) 2.

¹⁵ U. S. Special Inspector General for Afghanistan Reconstruction, *Afghan First Initiative Has Placed Work with Afghan Companies, but is Affected by Inconsistent Contract Solicitation and Vetting, and Employment Data is Limited* (SIGAR Audit-12-6) 1.

¹⁶ U.S. Department of Defense, Office of the Inspector General, *Contingency Contracting: A Framework for Reform* (Report No. D-2010-059, May 2010) 6, 7.

¹⁷ U. S. Government Accounting Office, *Operational Contract Support: Management and Oversight Improvements needed in Afghanistan*, (GAO-12-290, March 2012) 18, 19.

¹⁸ Appleman, Patrick.

¹⁹ Ivanovich, David, "Electrocutions Kill at least 12 Soldiers, Marines in Iraq Ungrounded wires the focus of Inquiry at Facilities," *The Seattle Post-Intelligencer* (March 20, 2008) pg. A8.

²⁰ Appleman, Patrick.

²¹ Ibid; Commanders Guide to Money as a Weapons System.

²² Appleman, Patrick.

²³ Ibid.

²⁴ U. S. Department of the Army, *Green Warriors: Army Environmental Considerations for Contingency Operations from Planning Through Post Conflict*, Mosher, David E. et al., (Santa Monica, CA, 2008: The Rand Corporation).

²⁵ Schmitt, Eric and Tim Golden, "U.S. Planning Big New Prison in Afghanistan," *The New York Times*, May 17, 2008.

²⁶ Ibid: 23.

²⁷ Ibid.

²⁸ Appleman, Patrick.

²⁹ Dunn, Carroll: 139; U. S. Special Inspector General for Afghanistan Reconstruction, *Afghan National Security Forces Facilities: Concerns with Funding, Oversight, and Sustainability for Operations and Maintenance* (SIGAR Audit-13-1, October 2012). 1, 2.

³⁰ US Federal News Service (author not credited), "Logistics Civil Augmentation Program on Job in Afghanistan." *U.S. Federal News Service press release* 13 (December, 2011); Appleman, Patrick.

³¹ Arnoldy, Ben, "Afghans left out of their own rebuilding ; President Karzai discussed reconstruction during his White House visit Monday," *The Christian Science Monitor* (May 24, 2005).

³² Dunn, Carroll: p. 107

³³ Ibid.

³⁴ Ibid: 139.

³⁵ U. S. Special Inspector General for Afghanistan Reconstruction, Afghan National Security Forces Facilities: Concerns with Funding, Oversight, and Sustainability for Operation and Maintenance (SIGAR Audit-13-1) October, 2012.

³⁶ Ibid: vi, 7, 9

³⁷ Chandrasekaran, Rajiv, "U.S. Construction Projects in Afghanistan challenged by inspector general's report," *Washington Post* (July 30, 2012) found at http://articles.washingtonpost.com/2012-07-30/world/35487571_1_taliban-insurgency-afghan-government-afghanistan, (January 15, 2013).

³⁸ Lutz, Catherine, ed., p. 133. The book references a report by National Public Radio, comparing Balad Air Base construction with the surrounding community where they only have ten (10) hours a day of electrical service a day.

³⁹ Gillem, Mark, *America Town, Building the Outposts of Empire*, (Minneapolis, MN: University of Minnesota Press, 2007)xviii.

⁴⁰ Ibid: 148; Page, Kenneth.

⁴¹ Lord, Harold W. ed. 139, 148.

⁴² Spilinek, Lisa, "Radar bound for Bagram will help pilots avoid birds," *U. S. Department of Defense Information/Federal Information & News Dispatch, Inc.*(March, 2010).

⁴³ McNulty, Dennis J., "Base camp infrastructure development and C2 in Afghanistan," *Engineer* (32.4, October to December, 2002).

⁴⁴ Page, Kenneth.

⁴⁵ Appleman, Patrick.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Dunn, Carroll: 141.

⁴⁹ Ibid.

⁵⁰ SIGAR Audit 13-1.

⁵¹ US Federal News Service (author not credited), "Logistics Civil Augmentation Program on Job in Afghanistan." *U.S. Federal News Service press release* 13 (December, 2011); Davis, Scott, "Korean Vocational Training Center teaches Afghans invaluable skills," *Defense Video and Imagery Distribution System (DVIDS)*, November 15, 2010.

⁵² Munroe, John, Base Infrastructure (BI) Portfolio Lead, Interview conducted in person at Natick Laboratories, 11 December, 2012.

⁵³ Ibid.

⁵⁴ US Army Africa, *Contingency Construction and Site Development for Operations in Africa*, “*The Lion Book*,” Draft regulation USARAF 415-1, Draft as of 20 November, 2012. 6

⁵⁵ Ibid.

⁵⁶ Page, Kenneth.

⁵⁷ Anderson, Garth: i,1.

⁵⁸ Hill, Timothy, *Reducing an Insurgency’s Foothold: Using Army Sustainability Concepts as a Tool of Security Cooperation for AFRICOM*, (Carlisle Barracks, PA: U.S. Army War College, March, 2008), 11, 12.

⁵⁹ Ibid.

⁶⁰ Odierno, Raymond, “CSA Editorial: Prevent, shape, win,” December 16, 2011, linked from <http://www.army.mil/article/71030/>, last accessed February 25, 2013.

⁶¹ Munroe, John.